



Dear Colleague:

A contingent of staff from the Division of Tuberculosis Elimination (DTBE) attended the 40th Union World Conference on Lung Health, sponsored by the International Union Against Tuberculosis and Lung Disease (IUATLD). The conference was held in Cancun, Mexico, December 3–7, 2009, and convened over 2000 participants from 109 countries.

During a session of the Stop TB Symposium titled “Global TB Control Progress,” we heard an inspiring report on TB statistics: globally, there have been 43 million TB cases treated, 36 million TB cases cured, and up to 8 million deaths averted because of the TB treatment program DOTS (directly observed treatment, short course). The speaker recognized that we have to “move beyond the TB box” to progress towards TB control, meaning that we must implement innovative strategies.

However, a speaker in another session reported more somber data: a model to predict the course of multidrug-resistant (MDR) TB was evaluated for Central Europe, Estonia, Germany, Hong Kong, Russia, Latvia, Lithuania, United Kingdom, United States, and Western Europe, and found that in 9/10 areas, all strains of TB, including MDR TB, are only seeing slow progress towards elimination, and no area is on course to eliminate TB, including MDR TB, by 2050. The message was, again, that TB elimination will be delayed without new approaches or technology. There were many other outstanding reports and sessions, too numerous to summarize in this letter. The next World Union conference will be held November 11-15, 2010, in Berlin, Germany.

As you are aware, the earthquake disaster in Haiti brought offers of assistance from numerous groups around the globe. CDC staffers with specific language skills and disaster relief experience were solicited regarding their availability to deploy to Haiti to assist with relief efforts. I am proud that DTBE staffers were among the volunteers for this humanitarian effort. As always, we applaud all those (at CDC and elsewhere) who step up to these difficult and dangerous assignments.

The TB Epidemiologic Studies Consortium (TBESC) convened January 19–22 in Atlanta for its 16th semiannual meeting. In related news, activities related to the TB Genotyping Information System (TB GIMS) have begun, starting with a webinar for state TB GIMS administrators that was broadcast on January 12, 2010, with a repeat broadcast on February 9. The purpose of the TB GIMS webinar was to provide general information and instructions on the administration and registration process for TB GIMS administrators. The official roll-out of the system is planned for spring of 2010. Please read the summaries about the TBESC meeting as well as about TB GIMS in this issue.

DTBE has been making preparations for World TB Day—March 24, 2010. Our theme for this year is “TB Elimination: Together We Can!” We are most pleased that Dr. Tom Frieden, Director of CDC, is the keynote speaker at our World TB Day observance. This year the March 19 issue of the CDC *Morbidity and Mortality Weekly Report (MMWR)* included four TB-related items: a summary of 2009 TB surveillance data, a report on the CDC/DTBE National Tuberculosis Indicators Project (NTIP), a front-page highlight box, and an announcement about TB GIMS. To learn about the history of World TB Day, read about past activities conducted by state and local TB programs, and access resources for your own World TB Day activities, please visit DTBE’s World TB Day web page at www.cdc.gov/tb/events/WorldTBDay/default.htm

Another important event coming up later in the year is the National Tuberculosis Conference. This year’s conference is being held June 22–24 at the Crowne Plaza Ravinia in Atlanta. The theme will be *Innovate to Accelerate: On the Move to Eliminate TB*. Please mark your calendars for this meeting! We will provide more information as it becomes available.

Kenneth G. Castro, MD

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Note: The use of trade names in this issue is for identification purposes only and does not imply endorsement by the Public Health Service or the U.S. Department of Health and Human Services.

TB Notes

Centers for Disease Control and Prevention
Atlanta, Georgia 30333
Division of Tuberculosis Elimination ♦
National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention

No. 1, 2010

HIGHLIGHTS FROM STATE AND LOCAL PROGRAMS

Nurse and Outreach Worker Recognized with 2nd Annual TB Heroes Award

Each year, the New England TB Consortium presents the TB Heroes Award to one or two individuals who make an extraordinary contribution to the care or management of patients with tuberculosis (TB) or for an activity that greatly enhanced TB prevention and control efforts. This year, the award committee received 25 nominations. The recipients selected for the 2009 New England TB Heroes Award are Florence Grant, RN, a public health nurse with the Cambridge Public Health Department in Massachusetts, and Helen Wu, an outreach worker for the Bridgeport Health Department in Connecticut.

Florence Grant was presented her award at the New England TB Intensive course in Manchester, New Hampshire. Sue Etkind, Director of the Massachusetts Division of TB Prevention and Control, thanked Florence for her hard work and

read from the eloquent nomination letters submitted on her behalf. Florence's colleagues spoke of her commitment and energy in working with TB patients. When it comes to contact investigations, one of Florence's nominators wrote, "The key first step is to get in the door, to establish trust and relationships. Florence keeps trying until she gets in. It's not that she doesn't take no for an answer—it is that, eventually, even the most determined patient stops saying no to Florence!"

Florence addresses whatever obstacles to effective treatment she observes in a patient's life—lack of privacy, family issues, hygiene, nutrition, or cultural perceptions about TB. "She may be making a DOT visit, but when she discovers that the patient has not eaten, she comes back later with soup! Whatever obstacles the patient faces, they become part of Florence's care plan."

Florence Grant, RN (left), receives the TB Heroes award from Sue Etkind (right), joined by nomination committee members Jill Fournier and Mark Lobato



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Visit DTBE's Internet home page,
<http://www.cdc.gov/tb>,
for other publications, information, and
resources available from DTBE.

Florence's dedication to her patients continues even after treatment has ended. "Florence's patients are never 'completely discharged'. Years after they complete their TB treatment, they will call her whenever they need something—an appointment with the dentist, an appointment with a primary care provider. TB clinic patients past and present never hesitate to ask Florence to make a phone call to their lawyer or to call an agency over an unpaid bill." Florence's dedication and accomplishments are inspirational, and she serves as an example of a true TB Hero.

Flanked by two case managers as well as friends from Connecticut, Helen Wu received the TB Heroes award at the Community Health Worker TB Conference in Shrewsbury, MA. Dr. Mark Lobato, DTBE consultant to the New England region, gave credit to all of the outreach and community TB workers in attendance as day-to-day TB heroes. Yet, even among exemplary and dedicated staff, there are individuals who exhibit the qualities that we strive to live by and who

encourage us to go beyond the customary job requirements. Helen is that type of person.



Helen Wu accepts a citation from Bridgeport Mayor Bill Finch, January 5, 2010. At far left is Danielle Orcutt from the Connecticut TB control program.

Photo: Christian Abraham/Connecticut Post

Helen is well-known in the community. From the clinic to the streets of Bridgeport, CT, she provides the drugs that cure the dreaded TB. As she carries out her duties, Helen combines the rare qualities of caregiver and social worker. Helen's contributions serve as a model of what it means to go above and beyond the call to duty in her desire to eliminate TB. In the words of her nominator, "Helen's compassion is unwavering. She exemplifies professionalism in all she does. Her title is TB outreach worker, yet her knowledge of tuberculosis treatment is so vast that physicians call her for treatment advice. Helen familiarizes herself with her patients and anticipates their needs." Self-sacrificing, "She visits patients on weekends, holidays, or evenings if that is what their case dictates." Even in the face of adversity, Helen perseveres. "The recent budget crisis has not hindered Helen; she collects soda cans from her fellow employees to distribute to her patients." At the same time, "Her patients maintain their dignity, as they don't feel like they are receiving 'hand outs'."

On January 5, 2010, Helen received a citation from the city by Mayor Bill Finch at the Bridgeport

health department. To read an account of the citation ceremony, see "City worker honored for 'heroic' efforts to fight TB" at

www.ctpost.com/news/article/City-worker-honored-for-heroic-efforts-to-fight-310136.php.

Known for her leadership, dedication, and creativity, Helen is one of those consummate TB outreach workers from whom we all can learn.

*—Reported by the New England TB Consortium:
Nickolette Patrick (Northeast RTMCC),
Kathy Hursen (MA Div of TB Prevtn & Control),
Danielle Orcutt and Margaret Tate
(CT TB Program),
and Mark Lobato (Div of TB Elimination, CDC)*

California's Multidrug-Resistant TB Service: An Example of State and Local Jurisdictions Collaborating on Effective Management of Drug-Resistant TB

Overview: California continues to shoulder the greatest burden of multidrug-resistant tuberculosis (MDR TB) in the nation, with 30 to 40 new MDR TB cases and 1 to 2 extensively drug-resistant TB cases annually. As observed nationally with MDR TB, a majority of cases in California occur within its growing immigrant and foreign-born communities. During 2000 to 2007, California reported 277 MDR TB cases; 249 (90%) of these occurred among foreign-born residents.

The MDR TB Service of the California Department of Public Health Tuberculosis Control Branch was established in 2002 to respond to the increasing threat of drug-resistant TB. This service coordinates and oversees management of the State's MDR TB cases and provides technical assistance to local health jurisdictions. By providing early consultation and close collaboration with local TB programs, the service aims to increase case management capacity at the local level, halt transmission, and ensure the best chance for cure for each MDR

TB case in California. The service makes an effort to use the consultation as a training opportunity for local staff on the principles and practice of managing MDR TB.

The MDR TB Service typically begins its consultation by assembling a working partnership of local TB program staff and acute care facility providers who are involved in the management and care of an MDR TB case. This team meets monthly via teleconference to examine clinical and administrative aspects of diagnosis, management, and long-term monitoring and care. The service tailors its support to the needs of the patient and local program. A full consultation consists of scheduled teleconferences and specific written clinical recommendations and updates. The service regularly helps the local program plan for and access needed laboratory services, provides case management tools and templates, explores creative options with the team to secure second-line anti-tuberculosis drugs, and facilitates entry to Patient Assistance programs. The service also works closely with local staff to evaluate contacts, and recommends regimens for MDR latent TB infection (MDR LTBI) and monitoring for infected contacts. For programs with experience in managing MDR TB, less intensive support is provided.

Throughout this collaborative process, a close working relationship develops between the MDR TB Service and local staff. Local staff contact the service frequently between teleconferences with specific questions and requests to ensure quality continuity of care. The State has assisted jurisdictions onsite with complex contact investigations, conducting patient interviews, and addressing communication challenges and overall planning. As the case arrives at 6 months post-culture conversion and injectable therapy is completed, the service usually ends its monthly collaboration and continues its support on an ad hoc basis. Local staff may continue to contact the

service as needed for specific guidance and will provide quarterly written updates to the service for the remainder of treatment. The service monitors progress of the case by these updates and contacts the local TB program staff for clarification as needed. The service also conducts annual cohort reviews of all MDR patients statewide to monitor outcomes and evaluate the service.

Case Study: In 2008 a local jurisdiction in California reported a new MDR TB case to the MDR TB Service. The patient, a middle-aged foreign-born woman, had poorly controlled diabetes and no prior TB diagnosis or treatment. The patient had resided in the United States for many years and was hospitalized with cough. Acid-fast bacilli were detected by sputum smear microscopy, and right upper lobe cavities were seen on chest radiograph. A DNA probe of her sputum specimen identified *M. tuberculosis*, and the patient started a standard four-drug regimen. After 2 weeks, she was discharged to home isolation. Approximately 3 weeks after treatment initiation, a conventional drug susceptibility test revealed isoniazid (INH) and rifampin resistance. Because the patient had not received TB treatment previously and was not from a country with high primary MDR TB prevalence, the local TB program did not have confidence in the laboratory result. Moreover, a large complement of contacts to this case was emerging that included several children aged 5 years and younger. The local program requested a molecular beacon test be performed at the California Department of Public Health Microbial Diseases Laboratory (MDL) for rapid confirmation of the resistance and to support the best course of action for this patient and her contacts. The molecular beacon test detected mutations associated with INH and rifampin resistance. The local TB program lacked experience with MDR TB case management and requested assistance from the MDR TB Service. The

patient was re-hospitalized to initiate MDR TB therapy.

The MDR TB Service, local TB program staff, and acute care facility providers held an initial teleconference to develop a treatment, monitoring, and contact investigation plan. Additional drug-susceptibility tests from the local laboratory and MDL revealed resistance to streptomycin and ethionamide, and susceptibility to levofloxacin, capreomycin, pyrazinamide (PZA), and ethambutol (EMB). The service recommended treatment and followed up with a written consultation that planned an expanded regimen of moxifloxacin, capreomycin, pyrazinamide, ethambutol, and cycloserine. The service further recommended specific treatment efficacy and toxicity monitoring, a detailed approach to case management and coordination, and a plan for evaluating, treating, and monitoring contacts. During the initial 10 weeks on the MDR TB treatment regimen, the local staff contacted the service frequently for additional guidance between monthly teleconferences.

The MDR TB Service and local staff worked together closely to evaluate the large group of contacts to this case. The contact investigation identified 16 adult contacts, 10 of whom were tuberculin skin test (TST) positive and had normal chest radiographs. Based upon drug-susceptibility results of the source case, the service recommended a 9-month MDR LTBI regimen of ethambutol and moxifloxacin for these adult contacts in whom recent transmission from the index case was highly suspected. The investigation also identified 17 children aged 15 years and younger, of whom seven were TST positive and had normal chest radiographs. The service recommended a 9-month MDR LTBI regimen of PZA and EMB for the pediatric contacts. Of 33 contacts, 17 (52%) accepted MDR LTBI treatment; their follow-up is ongoing.

The contact investigation also identified two pediatric contacts with active TB. One child, who had an episode of fever and was otherwise asymptomatic, had peri-hilar lymphadenopathy and calcifications seen on chest radiograph. The second child was asymptomatic with mediastinal lymphadenopathy and an upper lobe nodule seen on CT scan. The MDR TB Service consulted infectious disease pediatricians in the MDR TB Expert Network, a national association of MDR TB practitioners, to develop consensus regarding pediatric treatment regimens and monitoring. Both cases were treated with a regimen of amikacin, levofloxacin, ethambutol, PZA, and vitamin B6. The service assisted the TB program in encouraging compliance with the family of one case whose treatment is delivered by a home health service, and whose management has proved to be particularly challenging.

Currently, the index case continues on treatment without complications. Her sputum remains smear and culture negative. The pediatric cases have improved by radiologic criteria and continue on their treatment regimens.

After nearly a year of accrued experience and close guidance from the MDR TB Service, the local TB program staff of this jurisdiction now manage and monitor three MDR TB cases and 31 contacts with enhanced capacity. California's experience with MDR TB case management contributes significantly to the growing body of expert MDR TB knowledge and practice. The timely consultation and skill transfer between the State and local TB programs has resulted in enhanced local management capacity, and represents an increased opportunity for cure of California's MDR TB cases.

As of 2009, the staff of California's MDR TB Service consists of Cheryl Scott, MD, MPH, Lead; Lisa True, RN, MS, Nurse Coordinator; Leslie Henry, RN, PHN, Nurse Consultant; Gayle

M. Schack, RN, BSN, Nurse Consultant; Gisela Schechter, MD, MPH, Physician Consultant; and Corrine Stuart, Communicable Disease Representative.

—Reported by Cheryl Scott, MD, MPH
Div of TB Elimination

Special Evening Event During National TB Conference: *Nuestra Casa*

The 2010 National TB Conference, "Innovate to Accelerate: On the Move to Eliminate TB," is being held June 22–24, 2010, at the Crowne Plaza Ravinia in Atlanta, Georgia. Conference planners are organizing a special outing for conference participants for the evening of Wednesday, June 23, to view a TB-related exhibit at the CDC Global Health Odyssey Museum. The exhibit, entitled *Nuestra Casa*, is described as "a touring project for tuberculosis advocacy, communication, and social mobilization." It is scheduled to be on display at CDC from June 14 to September 10, 2010. Below is a brief description of the exhibit from the CDC Global Health Odyssey website:

Our Home - Nuestra Casa is a three-dimensional house that reflects the lives and stories of people affected by tuberculosis (TB), their surroundings, and their messages of reality and hope from the U.S.-Mexico border and other parts of Mexico. The exhibit provides museum visitors with an experiential-learning opportunity by inviting

them into the "home" of a person with TB.

Further details on the outing are included in 2010 National TB



Conference information packet, and can be accessed at this link:

<https://www.signup4.net/Upload/NTCA10A/2010771E/NuestraCasa.pdf>

—Submitted by Peri Hopkins, MPH, CHES
Div of TB Elimination

TB EDUCATION AND TRAINING NETWORK UPDATES

Member Highlight

Janice Jespersen, BN, is Clinical Coordinator for the TB Program, Child, Youth, and Family Community Health, at the Vancouver Island Health Authority. She received a diploma in nursing in 1975 from the University of Alberta and her BN in 2004 from the University of Athabasca.

Her job responsibilities include coordinating and supervising the TB outbreak response for the Health Authority in Alberni Valley, Vancouver Island, British Columbia. She has been leading a team of up to six nurses and three outreach workers in addressing a large TB outbreak in what was formerly a low-incidence area on the west coast of British Columbia. "The outbreak has been complicated by the fact that there were few services in place for the affected population, many of whom were homeless, drug-addicted, and part of a racial minority group," she noted. "In the past year the TB cases have dramatically declined, and the team is now working on establishing a comprehensive street-level health service for this population," Janice added.



She has recently developed a set of nursing protocols for outbreak management. "I believe that this sort of tool is essential for nurses working in low-incidence areas who suddenly face the challenge of managing a TB outbreak," Janice commented. The development of this tool involved incorporating existing federal and provincial guidelines into a simple step-by-step checklist that applies these guidelines in the local situation. These protocols evolved over a 3-year period. "Our team found that capturing, defining, and refining our practice protocols was a great support to developing a unified way of operation that supports best practice. We only wish that we'd had this tool at the beginning of the outbreak!" she noted.

One of her team's major challenges was to successfully implement treatment for LTBI within a crack cocaine community. They addressed this challenge by using the educational process to identify programming gaps, and then developed a wide-ranging set of strategies to address those gaps. (Note: An article on this initiative will appear in *TB Notes* No. 2, 2010.)

The majority of Janice's 34-year nursing career has been outside of mainstream North American nursing practice; rather, she has been employed by international aid agencies in India, Pakistan, Afghanistan, and Sudan.

She also worked for the U.S. government as an embassy nurse in Kazakhstan, as well as for Canadian First Nations communities in the Northwest Territories and Alberta. "In each of these positions, TB has played a role—albeit minor in some," Janice commented. "It has been interesting to learn how, in the midst of widely divergent cultures and circumstances, there remain stark similarities in terms of TB program needs. Hopefully, by developing strong partnerships through networks such as the TB ETN, we can succeed in sharing resources, knowledge, and approaches that support

stronger programming worldwide,” Janice explained.

Janice first learned of TB ETN from her colleague Lynette McElroy, who served as a consultant to Janice’s TB outbreak team for a short time and connected her to TB ETN as a resource. “I was pleased to find a network that was actively involved in connecting members to resources, dialogue, and research that could assist our team in expanding our knowledge of TB management, developing our program strategies, and challenging us to try new approaches,” stated Janice.

Janice would love to see TB ETN reach further into the international sector, particularly in developing countries, connecting people with access to knowledge, skills, and resources adapted to the unique challenges of TB in these areas.

Janice spends her leisure time sailing, kayaking, and gardening in the summer months, while in winter months, she enjoys hiking, skiing, and skating. She also enjoys more sedentary leisure pursuits such as reading, movies, and correspondence.

If you’d like to join Janice as a TB ETN member and take advantage of all TB ETN has to offer, please send an e-mail requesting a registration form to tbetn@cdc.gov. You can also send a request by fax to 404-639-8960 or by mail to TB ETN, CEBSB, Division of Tuberculosis Elimination, CDC, 1600 Clifton Rd., N.E., MS E10, Atlanta, Georgia 30333 or, if you would like additional information about the [TB Education and Training Network](#).

—Submitted by Regina Bess
Div of TB Elimination

TB ETN Program Highlight: The Michigan Tuberculosis Nursing Certification Project

Background

Since 2005, the Tuberculosis Nurse Network of Michigan has engaged in tuberculosis (TB) public health nursing activities to strengthen the knowledge, confidence, and expertise of public health and private providers in the practice of TB case management. The 25-plus members of the TB Nurse Network meet regularly, on a quarterly basis. Meetings have produced networking opportunities, broadened education and case management, and provided updates of TB control activities. The network has also provided a forum for shared experiences in contact investigation, reporting, and surveillance by nurses and other infection control practitioners in tuberculosis control activities. The development of a TB Tool Kit is a direct result of this organization’s effort.

The TB Nurse Network supported the concept of designing and providing a statewide Tuberculosis Nursing Certification Course. This course would serve as a model for the State of Michigan, and for other interested state TB programs that recognize and acknowledge the expertise and education needed by clinical nursing staff practicing TB control at the local level.

Increasingly, the blending of TB nursing staff and communicable disease staff has diluted the concentrated effectiveness and proactive approaches to TB case management that TB nursing staff provided. In addition, the loss of TB nursing expertise from the workforce as long-time nurses retire has contributed to a reduced knowledge of and experience with TB. Moreover, a public health nurse course that embraces and advances TB nursing, and which would include a Baccalaureate and Associate Degree for nurses, is not available. At the time of development, no TB nursing comprehensive

course was offered through our regional training site, or the national TB Nurse Coalition.

The state of Michigan TB control program and the American Lung Association of Michigan jointly provide education courses that include tuberculin skin testing (including train-the-trainer sessions), case management, contact investigation, and directly observed therapy. Despite these proactive efforts, there still existed a deficit of knowledge due to lack of attendance, conflicting job demands, and recurring staff turnover.

Implementing the Michigan TB Nursing Certification Course

The collective decision of the TB Nurse Network was to extend further the offerings of the TB courses, and blend them into a 2-day symposium that would have defined candidate criteria, would use faculty from the local health departments, and, upon the learner's successful completion, would acknowledge the learner with visible and tangible evidence of attainment of success. The attainment of certification in TB nursing will be maintained through testing on a 2-year cycle. We recognized that elevating TB nursing to a level of advanced practice, which demands enhanced skill and knowledge beyond general communicable disease care, would require vigorous and comprehensive guidelines.

Goals of the Project

Our overall plans or expectations were to offer the class to local public health department staff and private infection control practitioner staff annually. Prior to acceptance into the course, a candidate would be required to 1) demonstrate a basic core knowledge of TB by passing the Interactive Core Curriculum, 2) possess a valid Michigan RN License, and 3) be certified as a TB skin test instructor. The curriculum would cover the topics of TB history, pathogenesis, infection control, skin testing, treatment regimens, latent and active disease, contact investigations, field

safety, case management, directly observed therapy, cohort review, multidrug-resistant strains, and program evaluation strategies. We wanted the course to provide continuing education contact hours for Michigan nurses. We planned to provide a TB nursing manual/CD to attendees for future reference, and to engage knowledgeable faculty, including experienced communicable disease nurses and medical professionals, who could use their experience and expertise to fully address questions and concerns.

Our specific goals for the course were to-

- Support and encourage public health TB nurse confidence and expertise through the recertification process.
- Promote and advance the specialty of TB nursing as a vital and comprehensive skill for TB control.
- Partner and share resources with public health, institution of learning, nursing programs, and other organizations that share an interest in TB control.
- Provide a forum for the exchange of concerns, questions, demonstrations, and guidance for TB nursing.
- Create a public health environment that embraces and elevates TB nursing as a vital and core function of public health.

Implementation and Results

The course was held June 24 and 25, 2009, with a pre-workshop TST and Train-the-Trainer session on June 23. To be environmentally responsible, course organizers provided candidates with a CD of all the presentations and encouraged them to bring a laptop computer, so notes could be taken with each slide. For case management, DOT, and field safety subjects, discussion sessions were led by panels of experienced medical experts.

The New Jersey Global Institute supported the effort by providing speakers for the project. DJ

McCabe and Lillian Pirog, TB nursing consultants, served as nursing faculty for our course; they presented on case management and pediatric TB subjects. In addition, they provided consultation on testing questions and provided attendance certificates. Other faculty presenting included the Michigan TB Control Program Manager, the State of Michigan TB Laboratory Manager, a pharmacist, police staff, nurse consultants, and a CDC Public Health Advisor.

All attendees were employed by a local health department; 7 had an associate degree, 22 had a bachelors degree, and 5 had a masters degree. Participants' job categories included administrator/management (5), field worker (4), clinician (10), program supervisor (4), and other (11) (disease control, TB coordinator, etc.).

All 34 attendees successfully graduated from the 2-day course, with all passing the post test each day with over 90% correct responses. Graduates were awarded 13.25 continuing education contact hours from University of Michigan School of Public Health. Evaluations were positive from the participants and reflected excellent to good remarks in all faculty and learning sessions.

The Deputy Director of the Michigan Department of Public Health presented each graduate with a certificate of completion, and a reception was held afterwards to celebrate their successful certification. Certification status is to be renewed every 2 years by testing.

In conclusion, this training proved to be successful, even beyond expectations. It started as an idea from a brainstorming session in New Jersey and took shape with the help and assistance of the TB Nurse Network and the New Jersey Global Institute and the American Lung Association of Michigan. This training will be an annual educational opportunity in Michigan. In addition, the TB Nurse Coalition has expressed

interest in learning more about this course in the coming months. It is hoped that this training will serve as an example to other states to promote TB nursing.

This training proved that a handful of caring and committed professionals can unite to support our colleagues with the best training and education we can offer. In Michigan, public health TB nurses achieved the knowledge and skills to deliver high-quality nursing services in support of TB prevention and control, and in doing so, elevated the subspecialty of TB nursing to a higher level of practice in this state.

—Submitted by Gail Denkins, RN, BS
Michigan Dept. of Community Health

TB ETN Connections Project Update

As a result of talking to new members and reviewing member registration forms, the TB Education and Training Network (TB ETN) Membership Development Workgroup found that TB ETN members wanted to be able to:

- Network with other TB educators
- Share work they had done
- Obtain suggestions and input from colleagues
- Borrow presentations and materials from others so as not to reinvent the wheel

To help meet these expectations, in August 2008 the TB ETN Membership Development Workgroup launched the *TB ETN Connections Project*. This project is designed to connect members who have special talents, interests, and strengths with members who would like to develop in those same areas. It was also designed to give members new to education and training access to mentors who may have resources to share.

The areas of expertise are divided into the following six categories:

- Materials and products (e.g., posters, brochures, graphics, web design, e-learning)
- Training skills (e.g., classroom techniques, PowerPoint, games and activities, train-the-trainer techniques)
- Conference planning (e.g., site selection, marketing, registration, obtaining speakers)
- Course development (e.g., needs assessments, curriculum development, evaluation)
- Cultural competence (e.g., information about specific cultural groups and other populations such as jail inmates and homeless persons)
- Research and publication (e.g., study design, methods, data, poster presentations, publications)

If you would like to find a guide/mentor with the TB ETN Connections Project, follow these steps:

- Go to the [TB ETN website](#) and click on “Members Only Section” (If you are not yet a member, see below.)
- Log into “Members Only Section” with password
- Click on “TB ETN Connections Project”
- Locate the category you need and contact one of the persons listed as a mentor

Membership to TB ETN is open to all persons who have an interest in TB education and training issues. There is no membership fee and new members may join at any time. Go to www.cdc.gov/tb/tbetn/join.htm to download a membership application.

If you would like to be a mentor for the TB ETN Connections Project:

As a mentor for the TB ETN Connections Project, you would be asked to make a small commitment to the project in terms of time and effort. Some examples include

- Availability and willingness to answer e-mails (within a week) and to answer phone calls (always at your convenience) from colleagues to discuss a current issue;
- Ability to point a colleague in the right direction or to another resource person;
- Willingness to share examples, samples, and humor; and
- A cheerful attitude and encouraging words!

How would you be connected to colleagues needing assistance?

- Your name, contact information, and areas of expertise will be listed on the TB ETN web site in the Member’s Only Section
- It will be up to the member looking for information to contact you

What if you change jobs or need to be removed from the list for any reason?

- Contact one of the co-chairs of the Membership Development Workgroup and ask that your contact information be updated or removed.

If you would like to help your colleagues in TB ETN by participating as a guide/mentor in the TB ETN Connections Project, contact Teresa Goss at tlg2@cdc.gov. Ms. Goss will put you in contact with one of the Membership Development Workgroup Co-Chairs.

In your email please include:

- Your name, country, and e-mail address
- Category of expertise
- 1–3 specific examples of expertise

*—Submitted by TB ETN Co-chairs
Membership Development Workgroup
“I am stopping TB by sharing my knowledge.”*

TB PROGRAM EVALUATION NETWORK UPDATES

Introduction to the TB Program Evaluation Network

The TB Program Evaluation Network (TB PEN) is composed of individuals and organizations that share the common vision of tuberculosis (TB) elimination. The mission of TB PEN is to develop and strengthen the capacity of state and local TB programs to monitor and evaluate their programs and use findings to enhance the effectiveness of prevention and control activities.

The goal of the TB PEN is to build capacity for TB program evaluation activities in state and local TB programs and increase the number of programs that are evaluating their program activities through monitoring and evaluation of TB control activities, providing expertise and technical assistance for conducting TB program evaluation, and identifying and communicating effective program evaluations.

TB PEN membership is open to anyone who has an interest in TB program evaluation issues. There are four types of membership status: organizational membership, voting membership, active membership, and information-only membership. Organizational membership provides a means of communication across organizational lines through the TB PEN mission and vision. Voting membership is for individuals who are the designated Evaluation Focal Point person of their state or CDC-funded local, county, or city TB program. Active membership is for non-voting individuals who desire to be fully involved in all TB PEN activities. Information-only membership is for individuals who do not have a lead role in TB program evaluation in their agency, or do not wish to actively participate in TB PEN activities. Members may join or change their status anytime by contacting TB PEN at tbpen@cdc.gov.

TB PEN has a Steering Committee that includes a diverse group of TB evaluation professionals representative of the TB PEN membership. Newly elected officers include Steve Hughes from the New York State TB Program, representing a high-incidence state, Phil Griffin from the Kansas TB Program, representing a medium-incidence state, Jill Fournier from the New Hampshire TB Program, representing a low-incidence state, and Juan Elias from the Chicago TB Program representing a big city. The eight appointed positions representing various organizations and a working chair from one of the TB PEN Teams are announced in the article below.

There are five TB PEN teams including a technical assistance team, tools team, communication team, training team, and implementation (evaluation findings) team. Each team is composed of individuals who want to focus on a particular evaluation area of interest. The objectives of each team are described in the bylaws. Each team has two co-chairs, and at least one of those co-chairs attends each Steering Committee conference call.

TB PEN will hold an annual conference that includes committee meetings as well as workshops with lectures and skill-building sessions. The lectures provide opportunities for discussion and learning topical issues within TB program evaluation and other TB PEN issues, while the skills-building workshops focus on the application of TB program evaluation methods. The last issue of *TB Notes* included an article on the first TB ETN/TB PEN joint conference held in 2009. This conference was a huge success, and plans are in place to hold another joint conference August 10–12, 2010. Please consider becoming a member of TB PEN today.

—Reported by Jill Fournier, RN, BSN
Program Manager
NH TB Program

New TB PEN Steering Committee Announced

TB Program Evaluation (TB PEN) Steering Committee, 2010–2012

The Interim Steering Committee is pleased to introduce its new Steering Committee as listed below. Per TB PEN by-laws, it is comprised of representation from state and local programs, organizational memberships, and TB PEN teams.

Chair: Steve Hughes; co-Chair: Jill Fournier

High Incidence (NYS): Steve Hughes

Medium Incidence: Phil Griffin

Low Incidence (NH): Jill Fournier (NH)

Big City (Chicago): Juan Elias

Natl TB Controllers (NTCA): Peter Davidson (MI)

RTMCCs: Donna Wegener

TB ETN: Peri Hopkins

TBESC/TRIP: Suzanne Beavers

TBTC: Taraz Samandari /Elsa Villarino

CDC/FSEB: Awal Khan, Dan Ruggiero, and Vic Tomlinson

TB PEN – Technical Assistance: Kai Young

TB PEN – Tools: Kristina Schaller / Ann Tyree

TB PEN – Communications: Phil Griffin

TB PEN – Training: Jason Cummins/ Elizabeth Zeringue

TB PEN – Implementation: Sevim Ahmedov / Mary Goggin

Planning is already underway for the next TB ETN/PEN Training Conference that will be held in Atlanta at The Westin at North Perimeter August 10–12, 2010.

*—Reported by Linda Leary, Chair
Interim Steering Committee*

COMMUNICATIONS, EDUCATION, AND BEHAVIORAL STUDIES BRANCH UPDATES

DTBE Image Library Contest Winners!

DTBE Image Library Photo Contest

This year we had many entries for the DTBE Image Library photo contest. There were so many good entries that we decided to choose first-, second-, and third-place winners. The winning photos were chosen based on image quality, composition, and value or appropriateness to the division. All photos submitted for the contest were judged by division staff with photography, TB laboratory, communication, and public health experience.

We are pleased to announce that *Dr. Sundari Mase* of the Field Services and Evaluation Branch is the first-place winner, and *Dr. Wanda Walton* of the Communications, Education, and Behavioral Studies Branch wins second and third place in the DTBE Image Library Photo Contest.

Photo Contest 1st Place

Image title: TB Patient – 3.



This is a photo of a patient with multidrug-resistant (MDR) TB in Chuuk before treatment. The photo shows an 11-year-old female MDR TB contact who presented with cough, fever,

night sweats, and massive right cervical lymphadenopathy. The patient was placed on an MDR TB treatment regimen and is currently much improved with no further symptoms.

The first-place image was taken by Sundari while she was working in Micronesia as an MDR TB clinical consultant and for the study following up the MDR TB contacts on LTBI treatment. The Federated States of Micronesia (FSM) is an independent country, made up of four states, located in the Western Pacific. It is currently affiliated with the United States by a Compact of Free Association. Chuuk is the largest of the four states with a population of 55,000. During 2007, the TB incidence rate in Chuuk was 127 cases per 100,000, 30-fold higher than the U.S. rate (4.4 per 100,000). The first known MDR TB case in Chuuk was reported in December 2007. By April 2008, four deaths from MDR TB had been reported. On May 15, 2008, FSM requested CDC assistance in investigating these MDR TB cases.

The July 2008 investigation found evidence of two simultaneous MDR TB outbreaks, distinguished by genotype, drug-susceptibility patterns, and epidemiology. The first outbreak included three patients with MDR TB disease with *Mycobacterium tuberculosis* isolates resistant to five drugs.

Photo Contest 2nd and 3rd Place

The second- and third-place images were taken by Wanda while she was working in Nepal. Approximately 107,000 Nepali-speaking residents of Bhutan have been confined to seven refugee camps in southeastern Nepal since 1990. With almost 2 decades of failed initiatives to return or locally integrate them, the resettlement program in Nepal began in 2008 with the United States agreeing to resettle

approximately 60,000 Bhutanese refugees over the next 5 years.

Before entry into the United States, these applicants are required to undergo medical screening for diseases of public health significance, referred to as inadmissible conditions, which includes infectious TB. In August 2009, Wanda was a member of an evaluation team which traveled to Damak, Nepal. The team included representatives from CDC's Division of Global Migration and Quarantine and DTBE, in partnership with two consultants external to CDC and a member of Citizenship and Immigration Canada (CIC). The purpose of this program evaluation was to provide an objective, in-depth, and sensitive assessment of the International Organization for Migration's operation within Nepal in relation to the

application of the new TB Technical Instructions for detection and treatment of TB in this refugee population.

Photo Contest 2nd Place Image

Image title: TB patient with child.



This is an adult patient with TB waiting to be seen in the DOT clinic in the Bhutanese refugee camp in Damak, Nepal. The child has a black dot on his forehead for protection against evil spirits.



Photo Contest 3rd Place Image

Image title: Directly observed therapy for TB.

This is a photo of an outreach worker providing directly observed TB treatment to a patient in a refugee camp in Nepal.

DTBE staff can search for these images and many others by visiting the DTBE Image Library website at

<http://www.nchhstp.cdc.gov/dtbe/imagelibrary/home.asp> . If you do not have access to the Image Library and would like to request or share images, please send an e-mail to tbimage@cdc.gov .

A special thanks to those who submitted images for our photo contest!

—Reported by Regina Bess
Div of TB Elimination

Usability Study Results of the CDC TB Website Redesign

Introduction

The TB website redesign was launched on June 1, 2009. To evaluate the new design, in November 2009 the DTBE Web Team conducted a usability

study. The purpose of the study was to gather data for comparison with 2007 baseline data that had been gathered from a usability study conducted on the previous website design.

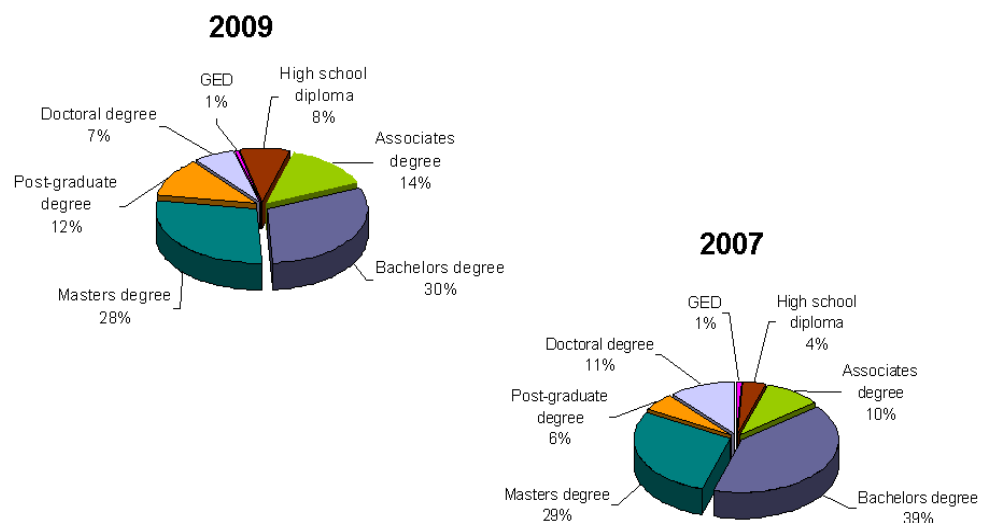
Study Methods

The November 2009 study followed the same methodology as the 2007 study. It was conducted remotely using a software program called Web Effective. Gov Delivery, the CDC e-mail subscription tool, was used to secure potential study participants. An e-mail that contained a link to the study was sent through Gov Delivery to DTBE website update subscribers. The study took on average 46 minutes to complete, and was completed by 165 participants working at their own computer.

During the usability study, participants--

- Completed a background questionnaire,
- Answered questions regarding their initial impressions of the website,
- Performed real-world tasks on the website,
- Answered questions about what they liked or disliked on the website, and
- Answered demographic questions about themselves.

Figure 1. Education of participants.



Study Participants

We had an equal number of participants from each user group (general public, health care providers, and public health professionals) of the DTBE website, with 75% of study participants being female. Also, participants were predominantly 35–64 years old; 37% worked in state, local or federal government, and most had achieved a bachelors degree or higher (Fig 1).

DTBE website more than once a month, with the largest proportion (47%) visiting on a weekly basis (Fig 2).

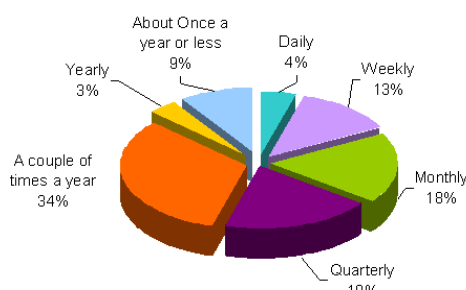
Study task scenarios

The study included 20 task scenarios. Each participant completed 10 tasks, 6 of which were specific to his/her user group. Of the 20 task scenarios, 4 were presented to all participants.

Figure 2. Participants' use of the DTBE website

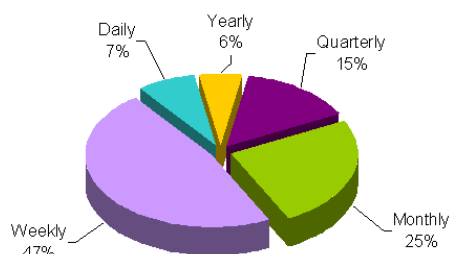
2009

If Yes, how often do you visit the CDC TB Website?



2007

If Yes, how often do you visit the CDC TB Website?



Following is an example of a study task presented to all participants:

"Use the CDC DTBE website to find data on TB cases in the United States. What was the number of TB cases in 2008?"

Participant impressions

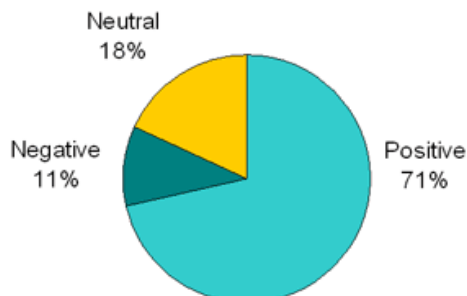
At the start of the study, 71% of participants had positive feedback on the newly redesigned TB website, an increase from 51% in 2007.

In 2009, more participants considered their level of Internet experience as "expert," an 8% increase from the 2007 study. Participants who had previously visited the DTBE website prior to the study decreased from 86% in 2007 to 70% in 2009. Of the 70% of participants who had previously visited the DTBE website, 83% visited once a month or less. In 2007, 79% visited the

Positive and negative feedback was recorded in response to the following question, "What is your initial impression of the DTBE website?" Below are some of the comments received.

Figure 3. Participants' initial impression of the DTBE website

2009



2007

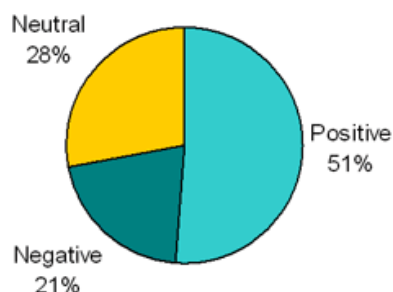
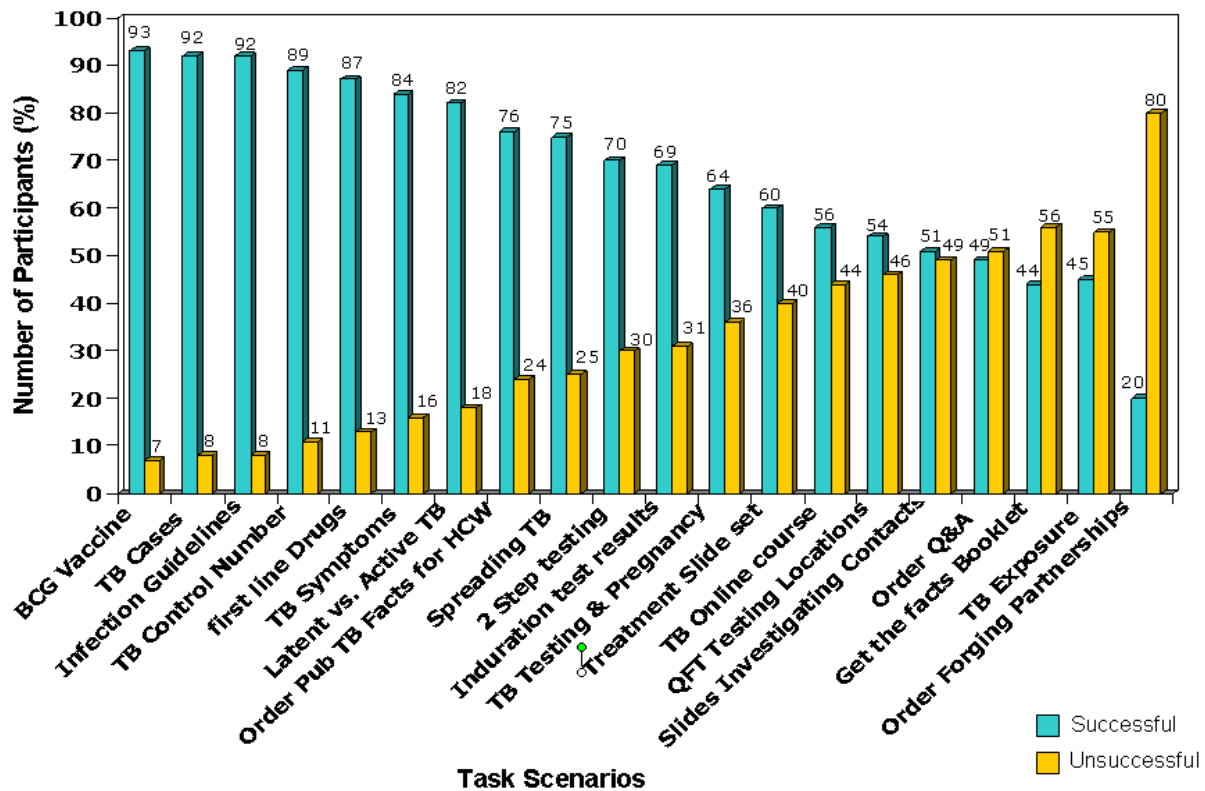


Figure 4. Participants' success completing



task scenarios, 2009

Positive comments

- "Professional. Love the topics buttons. Don't have to look for the information all over the site; it is right there in front of me."
- "Easy to navigate, catchy, not intimidating, easy to find whatever info you might want – one of the best websites I've seen."
- "It's informative. I like the way it's laid out. It's attractive, simple and direct."

Negative comments

- "Lots of information, busy."
- "Needs more order."

- "I knew exactly where to find what I wanted on the old one. Still have difficulty finding things here."

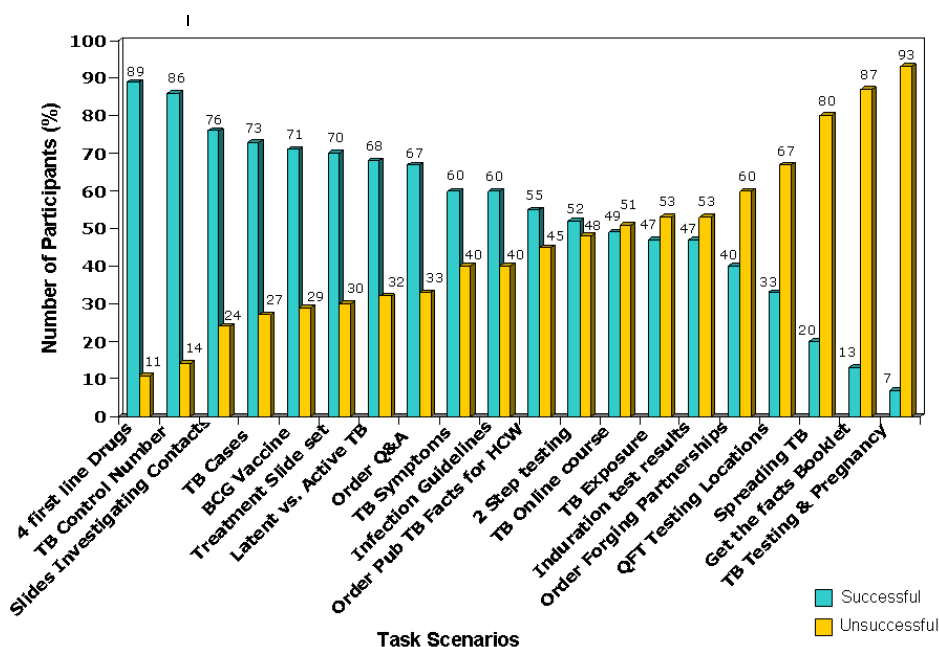
Only 11% of participants had negative feedback compared to 21% in 2007 and 18% provided neutral feedback compared to 28% in 2007.

Participant performance

Overall, the new website design resulted in an 11% increase in participant performance compared to 2007. While 61% successfully completed task scenarios in 2007, 72% were successful in 2009.

Compared to 2007, participant performance in 2009 improved significantly on a number of key task scenarios. In figures 4 and 5, the tall blue column indicates that most participants were successful in completing the task, whereas a tall yellow column indicates that most participants failed to complete the task. Please refer to appendix A for study task scenarios.

Figure 5. Participants' success completing task scenarios, 2007.



Findings

In the 2009, study participants successfully completed 16/20 task scenarios compared to 12/20 task scenarios in the 2007 study; refer to figures 4 and 5.

In 2007, more participants were unsuccessful than successful in completing the following eight task scenarios:

1. How would you take an online course about TB?
2. What should you do if you think you have been exposed?
3. A skin test reaction less than 5 mm is positive in what groups?
4. Order *Forging Partnerships* publication
5. Find QuantiFERON®-TB Gold testing locations
6. Find out how TB disease is spread.
7. Order *Get the Facts* booklet
8. Find out if it is safe to receive a TB test while pregnant.

In 2009, more participants were unsuccessful than successful in completing the following four task scenarios;

1. Order *TB Questions and Answers*
2. Order *Get the Facts* booklet
3. What should you do if you think you have been exposed?
4. Order *Forging Partnerships* publication

Figure 4 illustrates that 44% of the study participants successfully ordered the booklet entitled *Get the Facts* in 2009, compared to 13% in the 2007 study. The task scenario related to TB exposure (What to do if you have been exposed to TB) was successfully completed by 45% of the study participants in 2009, compared to 47% in the 2007 study. The task scenarios, "Order the *TB Questions and Answers* booklet" and "Order the *Forging Partnerships* publication" decreased in success in the 2009 study.

Conclusion

This study indicates that the redesigned DTBE website has increased user performance compared to the previous TB website by 11%. The DTBE Web Team would like to improve upon this by increasing overall success to higher than 72% in 2010. This usability study will aid in making improvements to the DTBE website in 2010. Some of the changes that will be implemented in 2010 are incorporating more

images to the DTBE website, reviewing the number of clicks users make before finding popular information, and making it easier to order publications within publication web pages. In 2010, DTBE plans to conduct further usability studies. At that time we will reach out to DTBE website users for assistance.

We would like to thank all who took the time to complete this study, and welcome any comments and feedback you would like to share with the DTBE Web Team hsttbwebteam@cdc.gov.

—Reported by Sharon McAleer, MISM, CUA
Div of TB Elimination

Appendix A – Study task scenarios

- *Latent vs. active TB*: What are the differences between latent TB infection and active TB disease? Which option below is correct?
- *TB cases*: Use the CDC TB Website to find data on TB cases in the United States. What was the number of TB cases in 2006?
- *TB control telephone number*: Use the CDC TB Website to find the telephone number for the Georgia State TB Control Office.
- *Infection control guidelines*: CDC publishes TB guidelines on a variety of topics. When were the “Guidelines for Preventing the Transmission of *Mycobacterium tuberculosis* in Health-Care Settings” published?
- *TB symptoms*: What are the symptoms of TB disease?
- *Spreading TB*: How is TB disease spread?
- *Get the Facts booklet*: You would like a booklet that provides basic information on TB disease. Locate the publication *Get the Facts*.
- *TB exposure*: What should you do if you think you have been exposed to someone with TB disease?
- *Order Q&A*: You would like to order the publication *Questions and Answers About TB*. Is the publication available to order online?
- *TB Testing & Pregnancy*: Is it safe to receive a tuberculin skin test while pregnant?
- *QFT testing locations*: You recently heard about a blood test to check for TB infection called QFT or QuantiFERON-TB Gold test (QFT-G). You would like to find laboratories in your area that conduct the QFT-G test. What is the title of the TB webpage that links to QFT-G testing sites?
- *TB online course*: You would like to take an online course about TB for continuing education (CE) credits. What is the name of a CDC web-based course on TB that offers CE credits?
- *BCG vaccine*: BCG, or bacille Calmette-Guérin, is a vaccine for tuberculosis (TB) disease. Is the BCG vaccine recommended for use in the United States?
- *Order Forging Partnerships publication*: You would like to order the publication “Forging Partnerships to Eliminate Tuberculosis.” What publication formats are available to order?
- *Slides on investigating contacts*: Is a slide set on investigating contacts of persons with TB disease available to download?
- *Skin test results*: CDC recommends criteria for classifying positive tuberculin skin test reactions. A tuberculin skin test reaction of > 5 mm of induration is interpreted as positive in what groups?
- *Two-step testing*: CDC recommends two-step tuberculin skin testing (two-step testing) of adults who are going to be retested periodically. Why is two-step testing recommended?
- *Order publication TB Facts for HCW*: You would like to order the publication “TB Facts for Healthcare Workers.” Is the publication available to order online?
- *Treatment slide set*: Is a slide set on the treatment of TB available to download?
- *TB first-line drugs*: What are the four first-line drugs used to treat TB disease?

SURVEILLANCE, EPIDEMIOLOGY, AND OUTBREAK INVESTIGATIONS BRANCH UPDATES

Aberration Detection Updates

What Is Aberration Detection?

Aberration detection is the use of statistical analysis to identify deviations from expected patterns. When applied to disease, aberration detection methods can be integrated into different types of surveillance systems, from traditional case-based surveillance (including some forms of laboratory-based surveillance) to surveillance based on clusters of signs and symptoms (i.e., syndromic surveillance). The objective of aberration detection systems is to identify unusual events (e.g., clusters of illness) and direct public health resources toward investigating and intervening to prevent additional illnesses.

The nature of TB transmission, in combination with the advent of the U.S. National Tuberculosis Genotyping Service (NTGS), lends itself well to the use of the spatio-temporal approach to the design and development of an aberration detection system. An aberration is defined as an excessive geospatial concentration of a given genotype compared to the national average. Various statistical methods such as CUSUM and log likelihood ratio (LLR) can be applied to geographic regions. At present, CDC is primarily using the LLR method applied to individual counties to detect aberrant genotype clusters of TB in those counties. The higher the LLR, the greater the chance that the local genotype cluster within the county represents an unexpected geospatial concentration; unexpected geospatial concentrations might indicate recent transmission of TB. Examining genotype clusters prioritized by high LLRs might help TB programs focus attention for public health response activities.

One limitation of the county-based method is that cases in neighboring areas will not be included in the initially identified genotype cluster. To address this limitation, CDC is evaluating the use of SaTScan (Spatial and Temporal Scanning) software, which uses spatial scanning techniques to identify significant genotype clusters within circles of a given radius and then calculates the LLR for those clusters.

Validation of Aberration Detection Methods

CDC has conferred with TB control experts to compare genotype cluster prioritization based on LLR results to priorities established by expert opinion. We found good correlation of cluster priority rankings between LLR and expert opinion. In addition, Tuberculosis Epidemiologic Studies Consortium (TBESC) Task Order 26, "Improving the Utilization and Integration of TB Genotyping into Routine TB Program Practice: Analyzing the Impact through Public Health Interventions," has been initiated to further validate the use of aberration detection methods to identify TB clusters of public health importance. Four study sites (Georgia, Maryland, Massachusetts, and the city of Houston, Texas) will systematically assess and investigate TB genotype clusters in their jurisdictions. In addition, a panel of TB control experts will evaluate and prioritize (e.g., high, medium, low) TB clusters selected for investigation. The expert panel will be blinded to the LLR calculated for each cluster, and the study investigators will compare the experts' conclusions and the LLRs determined at study onset to the results of the cluster investigations at the conclusion of the study. Task Order 26 has just gotten underway and is expected to contribute greatly to the validation and improvement of existing aberration detection models. Tools developed through these studies will also be used for cluster assessment and investigation.

Enhanced Access to Genotyping and Aberration Detection Data

The TB Genotyping Information Management System (TB GIMS) was rolled out to state and local TB programs on March 8, 2010. TB GIMS allows public health partners to access genotype results of TB cases and view genotype clusters (including demographic and risk factor information) in their jurisdictions. These reports include county prioritization lists with descending LLR results to assist TB control programs in identifying clusters for public health attention. Easy access to these data allows state and local programs to incorporate genotyping and aberration detection methods into their routine TB control activities and direct resources toward the greatest problems. Fact sheets and training materials related to understanding and application are under development. For questions about TB GIMS, contact your CDC program consultant or tbqims@cdc.gov.

New Staff to Develop Aberration Detection System Methods and Assist State and Local Programs

Juliana Grant, MD, MPH, and Adam Langer, DVM, MPH, recently joined the staff of the Surveillance, Epidemiology, and Outbreak Investigations Branch to focus on developing methods and procedures for responding to genotype clusters of TB identified through the NTGS and CDC's aberration detection activities. Drs. Grant and Langer will work with state and local public health partners to assess genotype clusters and develop methods for ascertaining if recent transmission has occurred, and what steps might be taken to reduce ongoing transmission. Several states have already invited Outbreak Investigations Team staff to collaborate in assessing potentially aberrant genotype clusters. State and local TB programs that would like consultation on epidemiologic interpretation of genotyping data, including assessment and investigation of potentially aberrant genotype

clusters, may contact their CDC program consultants for assistance.

*—Reported by Adam Langer, DVM, MPH,
Juliana Grant, MD, MPH, Smita Chatterjee, MS,
Roque Miramontes, PA-C, MPH,
and Paul Tribble, MA, Div of TB Elimination*

16th Semiannual Meeting of the TB Epidemiologic Studies Consortium (TBESC)

Approximately 100 principal investigators, project coordinators, and other Tuberculosis Epidemiologic Studies Consortium (TBESC) personnel attended the meeting January 20–21, 2010, at the Crowne Plaza Ravinia Hotel in Atlanta, GA. The purpose of the meeting was to discuss recent tuberculosis (TB) research and to plan next steps needed for current research via breakout sessions. Attendees were welcomed by Phil Talboy from DTBE and Jane Tapia of Emory University.

One highlight of the first day of the meeting was a scientific presentation on “Assessing QuantiFERON-TB Gold In-Tube (QFT-G) as an initial screening tool for U.S.-bound applicants for immigration and feasibility of follow-up in U.S. immigrants,” given by Randall Reves, MD. The study was performed to evaluate the sensitivity and specificity of QFT-G and TST in screening for TB in the immigrant population.

Dr. Reves, the study's principal investigator, found that QFT-G had approximately 88% sensitivity in screening for culture-positive TB. QFT-G sensitivity was similar in the study immigrant population to the sensitivity of a tuberculin skin test (TST) reading of 5 mm. Concordance between the two tests was approximately 80% in the two populations, Dr. Reves said.

Enrolled participants for the study were immigrants in Vietnam applying for residency in the United States. Two thirds of enrolled

immigrants had an abnormal chest x-ray (CXR). Participants were tested with TST, QFT-G, and TB culture.

Study investigators also evaluated the sensitivity of QFT-G and TST in predicting culture-positive TB among persons with an abnormal CXR. Results indicated sensitivities similar to those found when screening for all persons with culture-positive TB, Dr. Reves said (88% QFT-G sensitivity; 86% TST sensitivity using a cut-point of 5 mm).

Denise Garrett, MD, project officer for TBESC, also gave an update on the TBESC recompetition. Her presentation included a timeline for the recompetition, goals for the next TBESC, and an overview of future steps needed to establish the new TBESC.

Highlights of the second day of the meeting included an overview of economic analysis of TB in the presentation, "Estimating the Cost of TB in the United States," by Dr. Thad Miller. Dr. Miller discussed the means by which one's perspective of cost affects the total cost estimate, and reported that the estimated cost to society for one TB case was over \$300,000.

Bob Belknap, MD, also presented data from Task Order 18, "Evaluation of new interferon-gamma release assays in the diagnosis of LTBI in health care workers." Preliminary results indicated a 0.4% TST conversion in health care workers from 0 to 6 months, but 3% test conversion of both QuantiFERON-TB Gold In-Tube and T-Spot.

The 17th Semiannual TBESC meeting will be held in San Francisco, CA, July 28–29, 2010.

—Reported by Suzanne Beavers, MD
Div of TB Elimination

NEW CDC PUBLICATIONS

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PERSONNEL NOTES

Ana DeNunzio, BSN, joined the Program Evaluation Team of FSEB on January 19, 2010, for a 15-week assignment. She was selected as part of the Hispanic Association of Colleges and Universities (HACU) National Internship Program (HNIP) and will be working in DTBE until April 30. Ana has experience in nursing as well as in public health, and is currently working on her MPH degree at Tulane University. She has conducted community-based research in Brazilian communities and has assessed the quality of care in health care settings. Between 2002 and 2005, she worked as an epidemiology

nurse instructor. Also, since 2002, she has managed a medical center in Brazil, where she has coordinated family medicine programs such as maternal child health, diabetes, hypertension, family planning, infectious diseases, and communications and media outreach. Ana also has a background in chemistry and in the clinical laboratory, and has extensive experience in international communications and policy initiatives. She is fluent in Portuguese and Spanish and has worked as a volunteer in health communications in Portugal, Spain, and the US. Currently, she is a member of the American Society of Safety Engineers and the American Public Health Association.

Molly Dowling, MPH, CHES, has joined the Communications Team of the Communications, Education and Behavioral Studies Branch (CEBSB). Molly, who received her masters degree in public health (MPH) from the Rollins School of Public Health at Emory University, is not new to CDC. She recently worked as an ORISE Fellow in the Division of STD Prevention. During her fellowship, she had the lead for the development of an interactive computer-based course on SAS instruction (SASSI). Prior to her public health career, Molly taught English in rural Japan and worked in corporate human resources. Molly's training career began at the University of California, Davis, where she obtained a degree in history: while enrolled, she trained the student conductors who operated the campus double-deck buses (brought over from London) that were part of the university transportation system. Molly joined CEBSB on March 15.

Shalom Hernandez is an intern with the national Hispanic Association of Colleges and Universities (HACU) program, and is working with Roque Miramontes in the Surveillance, Epidemiology, and Outbreak Investigations Branch in DTBE. She is also pursuing a masters degree in public

health (MPH) concentrating in epidemiology at the College of Public Health and Health Professions at the University of Florida in Gainesville, FL; she is in the final semester of her MPH program and anticipates graduating in May 2010. She received a bachelors degree in Health Science from the University of Florida in May of 2008. Shalom is now in the process of interviewing with Physician Assistant study programs in Florida in hopes of continuing her graduate education and working in the health care field. She wants to use her MPH degree to focus on preventive medicine as well as infectious diseases. She plans to complete a special project with the CDC team that involves examining the demographic and clinical characteristics of clustered foreign-born TB patients, as well as comparing the characteristics for clustered and non-clustered TB patients in the U.S. She also plans to assist the outbreak investigation team when needed during her time here. As an intern, Shalom hopes that her work will be incorporated into the ongoing research at CDC that seeks to further understand the burden of TB disease among foreign-born persons in the United States.

Kashef Ijaz, MD, Chief of DTBE's Field Services and Evaluation Branch (FSEB), is serving a detail in the new CDC Center for Global Health as Chief, Global Disease Detection Branch. Kashef recently completed a detail as Deputy Director in the Division of Emerging Infections and Surveillance Services of the new Center. During his detail, he helped lead the transition of the International Emerging Infections Program to the new Center and also served on the leadership team for the new Center. As part of the leadership team, he lead the Science Task Group, which outlined critical areas for science and epidemiology that the new Center should include, in addition to developing and maintaining linkages with subject matter experts within CDC. Kashef began his new detail on Feb. 1.

Scott Jones has been selected the recipient of the DTBE Director's Recognition Award for the first quarter of 2010. Scott has been assigned to the Alabama Department of Public Health in the Division of Tuberculosis Control since 2001, during which time he has endeavored to improve the state's TB prevention and control program. He has successfully worked with, and supported, three consecutive TB division directors. In September 2006, the Alabama TB division director retired early due to health conditions. At that time there were no names on the state personnel classification register for Disease Control Division Director, and no state merit system employees within the TB program were qualified for the position. When Dr. Woernle, Assistant State Health Officer, asked DTBE to allow Scott to serve as Interim Program Director of the Alabama TB program, the division agreed, thinking the assignment would be for 6 to 9 months. It was not anticipated that Scott would carry the interim director title for 33 months, doing so with honor and integrity. Never once did it appear that he was "babysitting" the TB program while waiting for the next director to arrive and solve the current problem, settle an issue, or tackle a difficult task.

Scott has guided the Alabama TB program and worked to develop the TB division into a strong cohesive unit. He has demonstrated personal interest and compassion for the plight of the patients and families touched by TB disease, and he has extended that same interest and compassion to the TB program staff. He knows and understands the strengths and weaknesses of the TB program state level and field staff and works with each individual to challenge them to excel in their respective roles. Scott has been open to exploring new ideas and approaches to solving problems. His approach to problem-solving has been positive; he has used each as a teaching opportunity for state and local staff as well as for the medical community.

During his tenure as Interim Program Director, he successfully managed a statewide program with diminishing resources. He has juggled state personnel requirements and budgets as well as his CDC responsibilities. He approaches his daily work positively and in a professional manner. He actively participates in bureau-wide disease control projects and offers valuable input to group discussions; he approaches difficult situations in a calm, mature, and exemplary manner. Scott is sincerely dedicated to the TB control program, and has demonstrated that dedication and concern time and again during his years of service to this state. He exhibits a very high work standard and is a strong role model for others. During his time in this position, Scott has been an exemplary addition to the Alabama TB control program. His colleagues in Alabama are grateful to have him as their partner in the fight to control TB and other communicable diseases in Alabama.

Romel Lacson, MPH, Lead Behavioral Scientist in the Communications, Education, and Behavioral Studies Branch (CEBSB), is serving a detail to the Division of HIV/AIDS Prevention to provide support to the National Monitoring and Evaluation Team (NMET) in the Program Evaluation Branch. This detail will fill a critical need for a senior behavioral scientist to provide evaluation expertise to state and local health departments and directly funded community-based organizations in their collection and use of HIV monitoring and evaluation data. Amera Khan, MPH, has agreed to serve as Acting Team Lead for the Education, Training, and Behavioral Studies Team in CEBSB in Romel's absence.

Allison Maiuri, MPH, has joined DTBE as a Health Education Specialist in the Communications, Education, and Behavioral Studies Branch (CEBSB), where she is a member of the Education, Training, and Behavioral Studies Team. She has been with CEBSB since 2006, serving as an Association of

Schools of Public Health (ASPH) Fellow and as a Behavioral Scientist prior to this new position. Allison has worked on a variety of projects within the branch, including the Find TB Resources.org website and the TB Program Managers' Course. Among her many duties, she is instrumental in the activities of the TB Education and Training Network (TB ETN) and serves as the CDC liaison for the TB ETN Cultural Competency Workgroup. Allison graduated from Emory University's Rollins School of Public Health in 2006 with an MPH in behavioral sciences and health education. She received her BS in psychology from the University of North Carolina at Chapel Hill.

Lakshmy Menon, MPH, joined DTBE's Field Services and Evaluation Branch (FSEB) on February 1 as a Health Scientist with the Program Evaluation Team. Lakshmy came to CDC in August 2008 as an Association of Schools of Public Health (ASPH) Fellow. During her fellowship, she evaluated the 2008 pilot of the DTBE telework policy and analyzed data from an evaluation of management and operations in DTBE's Mycobacteriology Laboratory Branch. Lakshmy also designed a process evaluation of national TB surveillance data quality, which is currently in its implementation phase. She also designed and is currently conducting an evaluation of the CureTB Binational Referral Program in San Diego, California. Lakshmy obtained an MPH degree in Global Health with a concentration in infectious diseases from the Rollins School of Public Health at Emory University in 2006. She received her BS degree in biology from Portland State University. As part of her graduate work at Emory, Lakshmy worked with the Rwanda Zambia HIV Research Group's Project San Francisco in Kigali, Rwanda, where she designed and implemented a study to identify clinical and self-reported risk factors for HIV seroconversion in serodiscordant couples. She also interned with the International Affairs Department of the American Cancer Society in Atlanta, where she created a department-wide

monitoring and evaluation tool for assessing the Society's progress towards lowering global cancer morbidity and mortality. Lakshmy also worked as a research assistant in the infectious disease program at Grady Health System, which led to her graduate thesis on the durability of initial highly active antiretroviral therapy in an urban, indigent, treatment-naïve population.

Brandy Peterson, MPH, CHES, officially joined DTBE's Field Services and Evaluation Branch (FSEB) on January 4, 2010, as a Health Scientist with the Program Evaluation Team. Brandy came to CDC as a Public Health Prevention Service Fellow in 2006. During 2007 to 2009, she completed a 2-year field assignment in the Sexually Transmitted Diseases unit at the Arizona Department of Health Services in Phoenix, Arizona. While at the state health department, she developed and implemented a behavioral surveillance study focused on syphilis symptom recognition among HIV-infected males who have sex with men (MSM) at two local HIV clinics. This required coordination between the state health department, a public clinic, and a private clinic. Brandy also evaluated a local syphilis prevention media campaign, and served as the facilitator for the syphilis prevention stakeholder group. After completion of the PHPS program in October 2009, Brandy returned to Atlanta, where she served as an Associate Project Officer in the COTPER Division of State and Local Readiness/ Program Services Branch. In this capacity she was responsible for providing technical assistance to the state health departments within Region VI, developing consultation plans, and monitoring use of the Public Health Emergency Response Funding for H1N1 response activities. Brandy previously worked for the National Cancer Institute Cancer Information Service Research Program (2005–2006) to support the design and implementation of health communication research studies. She also worked for the Paso del Norte Health Foundation (2003–2004) to develop the strategic

plan for the Physical Activity Initiative (Step It Up!), which served as the foundation for funding community-based organizations (CBOs) to implement effective physical activities programs within the Paso del Norte Region. Brandy obtained her master of public health degree from the University of Texas Health Science Center-School of Public Health in 2006 and her bachelor of science degree in Health Science from the University of Texas at El Paso in 2003.

Rachel Woodruff, MPH, has joined the Surveillance Team of the Surveillance, Epidemiology, and Outbreak Investigations Branch (SEOIB) as an epidemiologist. Prior to joining DTBE and SEOIB, Rachel spent 3 years at the DeKalb County Board of Health as the District Epidemiologist. In this capacity she managed and analyzed population-based health data, responded to illness outbreaks and foodborne illness complaints, coordinated the Behavioral Risk Factor Surveillance System and Youth Risk Behavior Survey, followed up on notifiable disease reports, and oversaw the development of a 5-year report on the status of health among DeKalb County residents. Rachel also gained previous experience at CDC as an epidemiologist in the Enteric Diseases Epidemiology Branch, where she worked with state and local health departments on foodborne outbreak surveillance and response, and as a research fellow in the Immunization Safety Branch, where she worked on vaccine risk communication issues. After serving as a Peace Corps volunteer in Honduras from 1996 to 1998, Rachel, a Colorado native, moved to Atlanta to attend Emory University's Rollins School of Public Health and received her MPH in 2001.

CALENDAR OF EVENTS

March 24, 2010

World TB Day Observance

Atlanta, GA

CDC Global Communication Center

April 14–17, 2010

The Denver TB Course

Denver, Colorado

National Jewish Health

<http://www.nationaljewish.org/education/pro-ed/events/tb-course.aspx>

April 15, 2010

TB Update for Civil Surgeons

Denver, Colorado

Denver Public Health

For more information, e-mail

cbargman@dhha.org or

tbcenter@nationaltbcenter.edu

Registration deadline: April 5, 2010

http://www.nationaltbcenter.edu/training/tbupdate_civil_surgeons.cfm

In-person and call-in participation both available; use above link to see pdf brochure

April 19–23, 2010

EIS Conference

Atlanta, GA

CDC

<http://www.cdc.gov/eis/Conference.html>

May 14–19, 2010

2010 ATS International Conference

New Orleans, LA

American Thoracic Society

<http://www.thoracic.org/sections/meetings-and-courses/international-conference/2010/>

June 6–9, 2010

APHL Annual Meeting and 4th State Environmental Laboratory Conference

Cincinnati, OH

Association of Public Health Laboratories

June 21–24, 2010

2010 National TB Conference

"Innovate to Accelerate: On the Move to Eliminate TB"

Crowne Plaza Ravinia

Atlanta, GA

<https://www.signup4.net/Public/ap.aspx?EID=2010771E>

For further information contact Sherry Brown -
smh6@cdc.gov

July 11–14, 2010

**International Conference on Emerging
Infectious Diseases**

Atlanta, GA

International Conference on Emerging Infectious
Diseases (ICEID)

<http://www.iceid.org/>